

Studies in African Trypetidae, with Descriptions of New Species.

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Dacus (*Afrodacus*) *lucidus*, sp. n.

It differs from *biguttulus*, Bez. in having only one inferior orbital bristle, the scutellum yellow and upper cross-vein infuscated; from *nigrivenatus*, Mro., which also has one inferior orbital, by the spots on the face and the absence of strong, silvery, submedian stripes on the thorax.

Holotype male, allotype female and two female paratypes Mossel Bay, Cape Province, vi-vii. 1930, R. E. Turner (in British Museum, one paratype female retained).

Total and wing-length in both sexes, 5.5 mm. An entirely pale ferruginous species, only humeri and a short, narrow mesopleural stripe (not crossing notopleural suture) yellow; head paler and legs straw-coloured. *Head* normal, frons yellow, about one-third width of head, rather widened anteriorly, slight pale pubescence, one superior and one inferior orbital bristle, no ocellars; lunule short; antennae a little longer than face, which has pair of round black spots just above epistome. *Thorax* with pale pubescence; pre-scutellar bristles present, but no anterior supra-alars, one pair scutellars; hind edge of scutellum straight, the bristles as far apart as length of scutellum; halteres yellow. *Legs*: hind tibiae a little darkened. *Wing*: stigma yellow, extreme base of marginal cell infuscated also its outer end beyond stigma followed by a very narrow costal stripe enlarged a little over end of third vein; upper cross-vein broadly infuscated; anal stripe moderate; point of anal cell in male 1.5 and in female 1.3 times length of rest of sixth vein, the point widened a bit in middle; strong cloud at end of sixth vein. *Abdomen* broad, about one-third its own width wider than thorax, strongly punctate, segments free; pubescence pale; third segment ciliate, second with narrow, slightly yellow, bare, hind edge. Base of ovipositor short, 1.0 mm.

Dacus (*Didacus*) *venetatus* sp. n.

Similar to *D. fuscatus*, Wied., and *D. brevistriga* Walk. but base of ovipositor very short and median and lateral post-sutural stripes on thorax.

Holotype ♂, allotype ♀, 7 ♂♂, 9 ♀♀ partypes, Duivelskloof, Northern Transvaal, December 1936 W. G. H. Coaton (in fruits of *Adenia senensis* — one of the most poisonous plants in South

Africa); 1 female paratype, Gatooma, Southern Rhodesia, xii. 1927, A. Cuthbertson.

Length, ♂ 7.5 mm., of wing 6.5 mm.; ♀ 8.0 mm., of wing 7.0 mm. *Head*: occiput light ferruginous, with yellow orbits; frons ferruginous, the yellow on sides broken by strong brown sub-integumentary spots at the two lower and the single upper orbital bristles, the middle pair of spots palely connected across frons, shining blackish across vertex, parallel-sided, three-eighths width of head; lunule moderate; antennae about as long as narrow cheeks; face with broad, flat keel and pair of shining black spots more or less drop-shaped; palpi brownish; proboscis short.

Thorax ferruginous, golden pubescence and faint grey dust on dorsum; strong median and lateral post-sutural stripes present, the latter touching a short yellow stripe on inner ends of suture, the narrow, yellow, mesopleural stripe only reaching to notopleural bristle; scutellum yellow except two-fifths ferruginous at base. Bristles: no middle scapulars, no anterior supra-alars and no pre-scutellars, but two apical scutellars. Pleura ferruginous, black before mesopleural stripe, with pale pubescence and moderate dust most noticeable obliquely. Legs: front femora ferruginous except at base, middle entirely and hind on outer third; tibiae ferruginous; tarsi yellow, distal three ferruginous. Wing: Stigma pale yellowish brown; along costa a very pale infuscation in marginal and submarginal cells, extending broadly over upper cross-vein and forming a more definite spot before end of third vein; further, the infuscation extends almost all over the wing, generally more strongly in the discal cell; anal stripe strong and black. Point of anal cell a little more than twice length of rest of sixth vein in both sexes, the point somewhat narrowed at base, the sides more or less parallel. *Abdomen* with golden pubescence, third segment ciliate; ferruginous, the first segment black, posterior oval areas in male rather small and blackish, with short pubescence, in female large and yellow. Genitalia and venter ferruginous. Base of ovipositor very short, 1.0 mm., wide and conical (flat in most specimens) barely projecting beyond end of abdomen.

***Dacus (Didacus) viator*, sp. n.**

A blackish species very similar to *Dacus brevis*, Coq., but differs in the shorter point of the anal cell in both sexes and the more heavily, black-marked dorsum of the abdomen.

Type ♂ and ♀, 2♂♂, 6♀♀ paratypes, Pretoria (near De Wildt), February 1936, H. K. Munro and C. C. Hattingh; 2♂♂ paratypes, Pretoria (Lynwood) 2.4.35, H. K. Munro; 1 ♀ paratype, Pretoria (Rosslyn) 26.9.31, W. J. Sim (bait trap); 1 ♀ paratype, Rustenburg, T. P., March 1932, A. J. Smith (bait trap); Durban, 1♂, 2♀♀, September 1932, 4♂♂, October 1933, W. E. Marriott (bait trap); Cedara,

Natal, 1♀, April 1932, L. B. Ripley (bait trap); Kokstad, Transkei, 2♂♂, 2♀♀, 16.1.33, H. Eagle (bait trap).

♂♀. Length ♂, 5.5 mm., ♀, 5.7 mm., of wing in both 5.0 mm. *Head*: occiput brownish with yellow orbital margins, frons brownish yellow, ocellar dot black and strongly developed, reddish-brown, sub-integumentary orbital spots, the middle pair joined to a large median spot, a spot below eye (in more or less bleached, bait-trap specimens the frons is more yellow in front and the spots tend to be absent). Bristles black, two inferior and one superior orbital, ocellars absent or minute, hair-like. Lunule reddish. Antennae ferruginous, third joint black at tip and twice length of second. Face yellow, a pair of round, shining black spots touching epistome; cheeks narrow, genae about width of third antennal joint; palpi light reddish yellow; proboscis short.

Thorax ferruginous, yellow markings are: humeri, broad mesopleural stripe to dorsocentral line above and on to sternite below, single hypopleural spot, and scutellum the last with a ferruginous base; on dorsum a wide black, median stripe widening to scutellum, on this stripe moderate white dust except for a narrow median streak bare; pleura ferruginous in front, black before mesopleural stripe, hind parts and sterna largely black. Post-scutellum black, lightly white dusted. Bristles normal, middle scapulars present and two scutellars, no anterior supra-alars. *Legs* pale ferruginous, inner halves of femora more yellow and hind tibiae and tarsi brownish. Wing normal; stigma black, end of marginal cell yellowish hyaline, no costal stripe between end of second vein and semicircular apical spot, no anal stripe but a strong cloud at end of sixth vein in male. Upper cross-vein in line with tip of stigma or just beyond, and the length of the lower from the latter. Point of anal cell short, in male 1.4 times length of rest of sixth vein, in female as long, rather wide and barely enlarged at middle. *Abdomen*. Male: oval, segments fused, base ferruginous, basal half of second segment black the large yellowish fascia on outer half divided by a ferruginous area in the middle; third segment ciliate (in one specimen the fourth segment is also ciliate on the one side), black, except small outer anterior corners reddish and slightly so in middle of hind margin, rest of abdomen ferruginous with a large black spot on each side of fourth segment extended more or less on to fifth, and a rather wide median stripe reaching fore edge of fifth segment only. Pubescence pale yellowish. Posterior oval areas more reddish. Venter yellowish, sternites and genitalia ferruginous. Female: as male, but black spots on fifth segment absent or generally small. Base of ovipositor wide conical, short, barely projecting beyond fifth segment.

Biology. In the fully-formed buds on some plants of *Brachystelma barberiae* (Asclepiadaceae) collected by Mr. C. C.

Hattingh, the author noticed the presence of Trypetid larvae. The plants were found in some numbers to the north of the Magaliesberg near De Wildt in the Pretoria district towards the end of January, 1936; they are low-growing, less than a foot high, and have one or two bunches of fifteen to twenty flowers. These are rather like those of the well-known *Stapeliae*, but the five points of the petals are long drawn-out and remain joined together at their tips, forming a basket; the flowers have a strong and very objectionable smell. The buds have a bulbous base and a long narrow neck, and it is in some of them that the larvae are found, one in each. The larvae burrow into and feed on the thicker base of the buds, and as each bud contains relatively little food, even for one maggot, as soon as one bud is consumed, the maggot makes its way out and bores into another, a remarkable habit. It is probable that the larval stage is short as it seems only full-grown buds are attacked, and as once the buds are full-sized they open rapidly, the larva must develop very quickly. The pupal stage was only twelve days, pupation taking place in the soil. The adult flies must be long-lived, as the plant only flowers once a year, and the flowering period is short so that they have to survive till the following season. It did not appear that there could be two generations of the fly within the one flowering period, but it might be possible if this were for some reason of longer duration.

***Dacus (Didacus) eminus*, sp. n.**

A species with fused abdominal segments, no anterior supra-alar bristles and no hypopleural spots, allied to *aspilus*, Bez. (with which *langi*, Curr. may be synonymous), and *attenuatus*, Coll., but with smaller apical spot on the wing and a short, median, yellow, post-sutural stripe.

Holotype ♂, Rosslyn, Transvaal, September 1931, J. M. Sim (bait-trap), paratype ♂, Durban, August 1932, W. E. Marriott (bait-trap).

Length 8.0 mm., of wing, 6.0 mm. *Head*: light ferruginous, frons about half width of head, one superior and two inferior orbital bristles; antennae: second joint one and three-fifths, third, three times as long as first, the second and third together as long as cheek; face with pair of moderate sized, round, black spots; *Thorax* finely punctate, ferruginous; pale yellow pubescence; humeri with yellow spot in front, yellow mesopleural stripe reaching dorso-central line; scutellum yellow with moderate ferruginous base, the two bristles as far apart as length of scutellum; legs ferruginous, except metatarsi and approximately inner halves of all femora. *Wing*: stigma dark brown, marginal cell entirely brown as is apical spot reaching from just before tip of second vein to just past end of fourth — the spot may be paler on its lower half; anal stripe strong, brown, the point twice length of rest of sixth vein. *Ab-*

domen: segments fused, twice as long as wide, rather more coarsely punctate than thorax, entirely ferruginous, third segment ciliate; sternites ferruginous, membranes yellow; genitalia ferruginous, the exposed aedeagus in the paratype appears to be rather long.

Dacus (Didacus) siliqualactis, sp. n.

This species is very like *D. vertebratus*, Bez., but two characters appear to be of constant value in separating them. There is always a short, but distinct, yellow, median, post-sutural stripe, absent in *vertebratus*; unfortunately many specimens are pinned in the centre of the thorax, and this stripe is thus more or less obscured. Then, in *vertebratus*, facial spots are always well-defined and round, moderately large to rather small and on the lower part of the face; in this species they tend to be less defined, are always large and oval, almost filling the grooves. In all other characters the species is almost identical with *vertebratus*, there being a similar range of variation as far as may be ascertained from the material available. It may be noted that *mimeticus*, Coll.¹⁾ seems almost to be identical with *vertebratus*; when his description is compared with a good series of *vertebratus* and the range of variation is taken into account, the only differences that remain are apparently the length and the coloration of the pubescence on the dorsum of the abdomen.

This new species is based on a series of specimens reared by Mr. H. Hargreaves, Government Entomologist, in Kampala, Uganda, from larvae in the pods of the plant *Asclepias semilunata* (known there as „kafumbo”). There are: — ♂♂, holotype and 2 paratypes, January 1935, 2 paratypes, April 1932, 8 paratypes June 1935; ♀♀, allotype and 5 paratypes, January 1935, 2 paratypes April 1932, one, November 1934, and 7 June 1935. Material has been returned to Mr. Hargreaves, the types later to be placed in the British Museum; a few paratypes have been retained.

Head as in *vertebratus*, but the facial spots are large; one superior and two inferior orbital bristles; the third antennal joint is about five times as long as wide, but measurements such as these may be deceptive. *Thorax* with post-sutural, median, yellow stripe, humeri and double hypopleural spot yellow, the mesopleural stripe, if anything, rather narrower than in *vertebratus*. The wing-pattern in the specimens is not very strong, probably owing to their rather teneral condition. Normally it may be darker, but possibly not as well-defined as in *vertebratus*; the costal stripe and apical spot less pronounced and the stigma generally more

¹⁾ Collart, *Bull. Mus. r. d'Hist. nat. de Belgique*, xi, 43, f. 13, (1935).

transparent yellow, the point of the anal cell about the same. *Abdomen* with the usual black markings developed to a greater or lesser extent. The base of the ovipositor is on the whole rather longer, but not very markedly so, than in *vertebratus*; measurements compared with the wing-length were variable and tend to lose their value in poor specimens; it is on an average about 1.3 mm.

***Dacus (Metidacus) delicatus*, sp. n.**

A species allied to *Dacus (Metidacus) lotus*, Bez., but differs in having a moderate oval spot at the tip of the wing.

Holotype ♂, Durban, 1—7.7.33, W. E. Marriott (bait-trap), allotype ♀, Van Reenen, Natal (Drakensberg, 6500 ft.), 10. 1926, R. E. Turner (in British Museum).

♂, length, 6.2 mm., wing, 5.5 mm., ♀, length, 6.4 mm., wing 6.0 mm. *Head*: occiput dark yellowish with yellow orbital margins; frons, flat, yellow with slight sub-integumentary lateral spots, slight pale pubescence, two inferior and one superior orbital bristles, no ocellars; antennae about twice length of short face, which has a median tubercle. *Thorax* reddish in specimen, probably normally more ferruginous; a median black stripe divides on hind portion into a pair of moderate sub-median spots, laterally is a black mark over notopleural suture and before the rather narrow, yellow, mesopleural stripe, also another black mark behind notopleural suture and below base of wing, and one below fore coxae; post-scutellum and upper hypopleural spot black, except ferruginous bar across top of former; the other yellow marks are humeri, single hypopleural spot and scutellum except reddish base of last. Bristles: two apical scutellars, anterior supra-alars, but no middle scapulars and no prescutellars. Halteres yellow. Legs yellow, but distal fourths of all femora ferruginous. Wing with pale yellowish tinge, stigma deep yellow, the brown, oval, apical spot filling end of sub-marginal and upper, outer corner of first posterior cell from midway between ends of second and third veins to end of fourth vein; no anal stripe, no cloud at end of sixth vein and no super-numerary lobe on wing of male; point of anal cell one third longer than rest of sixth vein. *Abdomen*: oval; segments fused; third not ciliate; first segment black, second red (ferruginous), of the rest, the third is almost entirely black, only ferruginous on each side of median black stripe that extends to hind end of abdomen, laterally the black extends very broadly on the sides of the fourth segment, and rather less so on sides of fifth; pubescence pale, on posterior oval areas, very fine. Genitalia and venter yellowish to ferruginous.

Female similar to male, but more ferruginous as it has not been in alcohol; the black markings on the abdomen are not quite so conspicuous, although the yellow fascia on second segment is more

noticeable. Point of anal cell widened in middle and as long as rest of sixth vein. Base of ovipositor ferruginous, short, 1 mm. in length.

Dacus (Dacus) doryloides, sp. n.

A remarkable and curious species with fused abdominal segments and anterior supra-alar bristles, a large abdomen, and on the wing a narrow costal stripe and both upper and lower cross-veins infuscated. It does not appear to be closely allied to any of the known African Dacinae. It calls to mind the species placed in *Psilodacus*, but these have no anterior supra-alar bristles, nor third segment ciliate in the male. However, even if this segment is not ciliate in this species, it is probably not near *Dacus (Metidacus) lotus*, Bez.

Holotype a female, Mossel Bay, Cape Province, April 1921, R. E. Turner (in British Museum).

Length 8.0 mm., of wing, 6.7 mm. *Head* light ferruginous, rather spherical, as long as high and one third wider, the eyes relatively small so that the occiput behind and face in front are rather conspicuous; occiput with a row of strong, short bristles on either side of the neck; frons flat, yellow in front, with pale pubescence, three-eighths width of head; lunule wide and short; antennae: first joint short, second and third joints about as long as height of head, third one-fifth wide as long; face yellowish with large, round, black spot on each side; palpi somewhat spatulate, apparently without strong setulae; proboscis short; cheeks about as wide as third antennal joint, genae four times as wide. *Thorax* reddish ferruginous; narrow anteriorly and rather more than one and a half times as wide at outer of the posterior supra-alar bristles; punctate, with a pair of sub-median dusted stripes on which punctuation is less; pubescence pale; suture a narrow, smooth streak on each side. Yellow are humeri, broad mesopleural stripe (which does not cross notopleural suture nor on to sternite below) and single hypopleural spot, also scutellum except a narrow ferruginous base. Halteres yellow. Legs pale. Bristles black, anterior supra-alars present, but no middle scapulars nor prescutellars. *Wing*: upper cross-vein beyond middle of discal cell; stigma yellowish, a costal stripe filling marginal cell, then a moderate stripe along costa gradually widening to tip of fourth vein; upper and lower cross-veins infuscated, anal stripe present; Point of anal cell about twice width of vein, gradually tapering at outer end, 1.6 times length of rest of sixth veins.

Abdomen large, wider than thorax, rather broadly elongate oval, the sides more or less parallel; segments fused; entirely ferruginous with whitish pubescence; base of ovipositor 1.3 mm., short conical.

Perilampus Bez.

Bezzi, 1920, *Bull. Ent. Res.*, 10, 233; 1924, *op. cit.* 15, 76 and 104; 1924, *Ann. S. A. Mus.*, 19, 471 and 482.

Genotype: *Carpophthoromyia pulchella*, Austen.

In considering this genus, it seems that Bezzi rather stressed the so-called „lateral keels” of the scutellum as a distinguishing character. An examination of the genotype, *pulchella*, Aust., shows that in this species the disc of the scutellum is flat, forming at the sides an „edge” which is somewhat conspicuous as a ridge or keel in certain lights; in other species it is hardly apparent at all, and the most that can be said is that the disc is flatter than is the case in *Trirhithrum*. Two important characters distinguish this genus, particularly from *Trirhithrum*: the point of the anal cell is shorter or at most hardly longer than the second basal, and the third and fourth veins are slightly, but fairly gradually, divergent outwardly (parallel in *Trirhithrum* or only slightly widened at their tips). There is usually a double hypopleural spot, but it may be absent; the scutellum yellow, rarely black margined. On the dorsum of the thorax the transverse bars of white pubescence are rather characteristic but may form a single patch as in some species of *Trirhithrum*, a pattern sometimes being apparent. In the last genus the arista tends to be plumose, while in *Perilampus* it is little more than long pubescent or bare. The wing-pattern is as a rule well-defined, but tends to be diffuse in the males of some species.

Biology. Species that have been reared all infest the fruits of species of *Loranthus*, a micro-environment difficult to imagine suitable for dipterous larvae on account of the very sticky latex. The larvae pupate in the soil, and often become enveloped in a pseudo-cocoon owing to the adhering sand-grains.

The puparium has a characteristic shape, the anterior end being obliquely truncate above. The circular disc thus formed constitutes the operculum, and comes off in one piece when the fly emerges.

Table of Species.

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| 1 (21) | Wing-pattern more heavily marked, the medial band strong and complete, or in some males the pattern becoming diffuse and the bands not well-defined. |
| 2 (6) | ♂♂. Pattern slightly or rather strongly diffuse; generally brownish species. |
| 3 (4) | Pattern very diffuse, bands hardly perceptible; (arista?.)
♂. <i>amazuluana</i> , Mro. |
| 4 (5) | Pattern more diffuse, but cubital and medial bands fairly distinct outwardly; arista bare.
♂. <i>umbrina</i> , n. sp. |

- 5 (4) Pattern fairly well-defined, only the medial and end of marginal bands approximated and more or less fused outwardly; last section of fourth vein strongly curved; arista bare. ♂. *thyene*, n. sp.
- 6 (2) ♂♂♀♀. Wing-pattern not diffuse.
- 7 (12) Arista bare.
- 8 (9) End of fourth vein strongly curved and the extreme tip somewhat straightened out so that the outer third of the second posterior cell is rather markedly widened; basal band widely separate from anal cross-vein; face without brown band at top. ♀. *thyene*, n. sp.
9. (10) End of fourth vein not so strongly curved, outer third of second posterior cell not so abruptly widened.
- 10 (11) Black species; dorsum of thorax shining black with extensive and dense white dust forming a pattern; femora brown and brown bar across base of antennae usually strong; outer width of second posterior cell twice length of upper cross-vein. ♂♀. *dryades*, n. sp.
- 11 (10) Brownish species; dorsum of thorax mostly brown with median blackish stripe, dust thin and not appearing as a pattern; femora yellow in male, brownish in female; bar at antennae usually indistinct; first posterior cell wider at end, two and a half times length of upper cross-vein (wing-pattern in male rather diffuse). ♀. *umbrina*, n. sp.
- 12 (7) Arista pubescent.
- 13 (14) Scutellum black round sides and behind *unita*, n. sp.
- 14 (13) Scutellum yellow.
- 15 (16) No yellow hypopleural spots *curta*, Mro.
- 16 (15) Yellow hypopleural spots present.
- 17 (18) A single reduced spot ♂. *diademata*, Bez.
- 18 (17) A strong double spot.
- 19 (20) Yellow mesopleural stripe rather narrow, as wide as humeri, more or less parallel-sided; basal band on wing separated from anal cross-vein; base of ovipositor one-fourth length of wing *pulchella*, Aust.
- 20 (19) Yellow mesopleural stripe widened; basal band on wing close to anal cross-vein, only hyaline streaks present; base of ovipositor half length of wing ♀. *diademata*, Bez.
- 21 (1) Wing-pattern reduced, medial band a tooth.
- 22 (25) Humeri yellow and mesopleural stripe strong and yellow (or white).

- 23 (24) End of marginal band on wing isolated
formosella, Aust.
24 (23) Marginal band entire, but much narrowed at end of stigma
tetradactyla, Mro.
25 (22) Humeri about concolorous with dorsum of thorax, mesopleural stripe indistinct, the latter region greyish-brown
arguta, End.

***Perilampus amazuluana*, Mro.**

Munro, 1930, *Bull. Ent. Res.*, 20, 394, Pl. xv, fig. 3.

Only the male type and a damaged paratype of the same sex are known from Zululand.

***Perilampus umbrina*, sp. n.**

A brownish species in which the wing-pattern in the male is diffuse.

Holotype male, Durban, June 1933, W. E. Marriott, taken in bait-trap; allotype female, Durban, 18.5.36. H. K. Munro, netted; paratypes: one ♀, netted, June 1936, W. E. Marriot, and the following bait-trap material — 1♀ August and 1♀ December 1930, 1♂ December 1931, 1♀ June and a pair September 1932 13 ♀♀, 19 ♀♀, June to October 1933, 1♂, 2♀♀, April-May 1936, Benmore, Durban, Marriott.

Length, male, 3.25 mm., of wing, 3.25 mm., female, 5.25 mm., of wing, 4.5. mm. *Head*: proportions of length, height and width, 6 : 9 : 11.5; occiput brownish above, yellow below; frons, about one-third width of head, a little narrowed anteriorly, orange yellow, the vertical plates and ocellar triangle shining yellow, the dot brownish, yellow at lunule, slight black pubescence, two inferior and two superior orbital bristles, the ocellars as strong as the latter; lunule inconspicuous; antennae half length of face, dark yellow, arista bare except slight pubescence at base; face flat, whitish yellow; eye in life in a female reddish with a figure 3 in pale greenish sheen formed by a short, narrow, horizontal bar in the middle and the upper and lower arms widened. *Thorax*: upper part largely brown with white pubescence in the middle of dorsum, black peripherally, in the caught female a median blackish stripe is more apparent; post-scutellum brown; lower parts of thorax yellow in male, brownish in female, in both humeri, broad mesopleural stripe and double hypopleural spot white, scutellum white on disc yellow on sides and behind, more or less triangular, and with slight dark pubescence apically; bristles complete, one mesopleural, the dorsocentrals on line of anterior supra-alars. Wing, male (fig. 1 A) pattern brown and diffuse, female (fig. 1 B) well-defined, black. *Abdomen*, male, base yellow, third segment blackish brown, fourth also, but with

yellow bar on hind half, a median notch reaching the fore edge, fifth blackish brown on sides, on middle yellow, narrow in front, widening to half width of segment on hind edge; female, base yellow, black on sides and front edge, slight silvery bar on hind margin of second segment; third black; fourth also but with silvery bar on hind half, the bar not quite reaching the sides, fifth as in male, sixth mainly yellow. Pubescence black on black (or brown) otherwise yellow, but all black on fifth segment. Male genitalia and venter yellow. Base of ovipositor rather short, stumpy, legging-shaped, 1.0 mm. about as long as segments 3, 4 and 5 together, shining black and black pubescence.

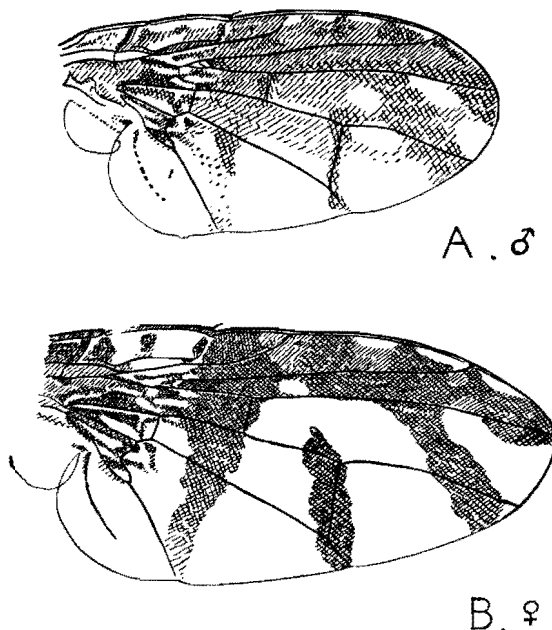


Fig. 1. *Perilampus umbrina*, n. sp. Wing of male, A., of female, B.

***Perilampus thyene*, sp. n.**

Distinct from the other species recorded owing to the dense silvery dust on the dorsum of the thorax.

Holotype ♂, allotype ♀, 1♂, 2♀, paratypes, Uhmlanga Beach, Natal, October 1937, W. E. Marriott (M. 637); 1♂ paratype, Pretoria (Rosslyn), January 1935, H. K. Munro (M. 638); 1♂, paratype Rustenburg, T. P. 26. 4. 32, A. J. Smith, in bait-trap.

♂, length 4.0 mm., wing 4.0 mm., ♀, length 6.0 mm., wing 5.0 mm. *Head*: occiput pale yellow below, darker and with blackish lateral spots above; frons brownish yellow, lighter yellow anteriorly and the vertical plates and ocellar triangle pale shining yellow; antennae brownish yellow like frons, about two-thirds length of face, arista bare; face and rather wide genae lemon yellow; palpi and proboscis yellowish; eyes in life green with a pair of rusty horizontal bars across the middle, these are narrow behind, widening and separating anteriorly, their margins irregular; there is a small pseudo-shadow and the peripheral shadows are strong and dark; in certain lights the eye appears brown with a green bar across the middle and a smaller greenish spot above and below it. *Thorax*: dorsum black, the margins broadly shining and with black pubescence, centrally with thick silvery dust and white pubescence, the dust not forming a pattern; pleura black, lower parts of thorax brown, blacker in female; humeri, mesopleural stripe and double hypopleural spot white, in a fresh specimen the mesopleural stripe yellowish along the suture; scutellum ivory yellow, slightly convex above; post-scutellum shining black; halteres yellow; legs yellow, femora brownish in female; wing-pattern, male, rather diffuse and brownish, basal band evanescent towards hind margin, the fairly distinct cubital obscurely united to marginal and basal, medial and end of marginal largely fused, only a short hyaline streak between; female, pattern practically as in Austen's figure for *pulchella*. Fourth vein strongly arched, the tip almost straight and making a fairly marked angle with the curved portion. *Abdomen* brownish black, brownish yellow at base and at tip; strong silvery bars on second and on hind three fourths of fourth segment, the bars reaching the sides; pubescence black, white on the silver; in female strongly reddish under the silvery dust, fifth segment largely reddish, black on sides and middle of anterior edge, sixth segment reddish. Genitalia and venter reddish brown. Base of ovipositor 1.0 mm., a little shorter than segments 3, 4 and 5 together, shining black with black pubescence, rather flattened in specimens, but probably stout legging-shaped.

Biology. The specimens M. 637 were reared from larvae found in the fruits of *Loranthus* sp. collected at Umhlanga Beach by Marriott in October 1937. The male, M. 638, from Rosslyn, near Pretoria, was reared from a single larva found in a fruit of *Loranthus rubromarginatus*.

Earlier in the season it had been noted that the plant was in full flower, but at the time the fruits were collected it seemed that very few had formed, apart from the fact that many are eaten by birds. Only the one, a very young, larva was found in a partly ripe fruit; it eventually became full-grown, pupated and the fly emerged.

***Perilampus dryades*, sp. n.**

Very like *pulchella*, Aust., but with bare, not pubescent arista.

Holotype ♂, Durban (Benmore) May 1936, H. K. Munro (M. 602); allotype ♀, 3 ♂, 1 ♀, paratypes, Umhlanga Beach, Natal, October 1937, W. E. Marriott (M. 636); 1 ♂, Durban, 28. 6. 36, W. E. Marriott (M. 642) and from bait-traps, Durban (Benmore) W. E. Marriott, 1 ♂, September 1932, 2 ♂, 1 ♀, June 1933, 2 ♀, September 1933, 2 ♂, October 1933.

Length, ♂, 3.75 mm., of wing, 4.0 mm., ♀, 5.0 mm., of wing, 4.5 mm. *Head*: occiput dark yellow, blackish centrally above, blacker in female, the yellow extending on to frons, the anterior third of which white, vertical plates and ocellar triangle shining, the spaces between orange, the ocellar dot brown, and brown spots on each side of middle of frons, a brown bar across base of antennae, touching top of face and including lunule; antennae slightly reddish brown, arista bare, face and genae white. *Thorax* shining brownish black, blacker on dorsum, on centre of which moderate silvery dust, forming a more or less marked pattern more apparent when seen obliquely; the pattern is broadly pear-shaped, narrower in front, wider behind suture, and with a pair of lateral bars along suture partly enclosing a post-sutural black spot; pubescence white on the dust, black on the wide margins; humeri, mesopleural stripe and double hypopleural spot white, scutellum yellow, but largely whitish on disc, and a narrow blackish base, lower part of corners brown, round the hind margin, below, slightly brownish; bristles normal; halteres brown, squamae white; legs brown, tibiae and tarsi paler; wing: pattern similar to that in Austen's figure for *pulchella*, but cubital and medial bars much wider; the last portion of fourth vein gently curved, its tip almost straight. (It may be noted that Major Austen wrote to say that the last portion of the fourth vein in *pulchella* is curved, and not quite straight as shown in the figure). *Abdomen* brownish black, with black pubescence; strong silvery bar on second segment not reaching the lateral margins; but that on hind three-fourths of fourth segment does; pubescence on silver pale; male genitalia and venter brownish; base of ovipositor shining black with black pubescence; 1.4 mm., about as long as pre-abdomen, legging-shaped, narrower and not strongly deflected at end.

Biology. The holotype male (M. 602) was reared from fruits of *Loranthus kraussianus* heavily infested with the larvae of *Perilampus tetradactyla* collected on Benmore (Durban); Mr. Marriott reared one male (M. 642) from a larva in a fruit of *Loranthus quinquenervis* at Durban, and a few specimens (M. 636) from larvae in fruits of *Loranthus* sp. collected at Umhlanga Beach, Natal.

***Perilampus unita*, sp. n.**

On account of the black-margined scutellum, this species is much

like a *Thirhithrum*, but is distinguished by the short point of the anal cell.

Holotype male, Durban, August 1930, allotype female, August 1933, paratypes: 1♂, August 1930; 3♂♂, August 1933, 1♀, September 1932, and 1♀, September 1933, all taken in bait-traps at Benmore, W. E. Marriott; 4♀♀, M. 608, Durban, September 1936, Marriott, bred.

Length, male, 4.0 mm., of wing, 4.0 mm., female, 5.0 mm., of wing, 4.25 mm. *Head*: occiput deep yellow, brownish above, more broadly black in female, the dark yellow extended to middle of frons, vertical plates and ocellar triangle shining and between them, orange yellow, fore half of frons brownish yellow, yellow in female, and a dark spot on each side of lunule; face yellow with brownish bar at top; antennae brown and a brown spot below eyes. Very slight, thin, black pubescence on frons, 2 inferior and 5.2 superior orbital bristles, ocellars strong; antennae about two-thirds length of face, nearly as long in female, palpi and proboscis yellow, palpi with black setulae. *Thorax* entirely shining black, with more or less of a ferruginous tinge on sutures; pubescence black, white pubescence forming a bar before and a trace of one behind suture; humeri, broad mesopleural stripe, double hypopleural spot and disc of scutellum white, the last broadly black on sides and behind; bristles normal; legs: femora brown to black, otherwise yellowish; halteres brown; squamae white; wing: basal streaks strong, basal band close to anal cross-vein, cubital united, rarely free, medial strong, end of fourth vein strongly arched. *Abdomen* black, first two segments somewhat ferruginous, blacker in female, hind margin of second ferruginous and with silvery dust, third black with trace of dust on hind edge, fourth black with strong silvery bar on hind half, fifth with a weak median ferruginous stripe, in female a round reddish spot on middle of hind edge, the silvery bars not quite reaching sides of abdomen, that on fourth segment in female only half width of the segment; pubescence black, except on silvery bars white and a little on middle of hind edge of third segment; male genitalia black, sternites yellowish; base of ovipositor shining black with black pubescence, robust, stout leggings-shaped, bent downwards apically, 1.25 mm., a little shorter than pre-abdomen, 1.5 mm.

Biology. Four females were reared by Mr. Marriott from larvae in fruit of *Loranthus quinquenervis*, collected on Benmore, Durban, July and September 1936.

***Perilampsis curta*, Mro.**

A species from East Africa that has been described elsewhere.

***Perilampsis diademata*, Bez.**

Bezzi, 1924, *Ann. S. A. Mus.*, 19, 482, Pl. xii, fig. 28; *Bull. Ent. Res.*, 15, 104 (in tables).

Munro, 1926, *Union S. Afr., Dept. Agric., Ent. Mem.*, 5, 23: 929, *Bull. Ent. Res.*, 20, 394.

It is to be regretted that no female has yet been taken at the type locality, near Pretoria. However, there does not seem any reason to doubt that the pair recorded from Southern Rhodesia in 1929 is this species.

***Perilampus pulchella*, Aust.**

Austen, 1910, *Bull. Ent. Res.*, 1, 72, fig. 1, wing, *Carpophthoromyia*.

Bezzi, 1913, *Bol. Lab. Zool. Portici*, 7, 23, *Ceratitis*; 1918, *Bull. Ent. Res.* 7, 227. *Carpophthoromyia*; *op. cit.* 920, 10, 233 and 1924, 15, 104. *Perilampus*.

Speiser, *Deutsch. Ent. Zeit.*, 1915, 2, 101. *Carpophthoromyia*.

Specimens collected by Mr. C. C. Gowdey at Entebbe, Uganda, 15. xi. 1909 were received from Mr. H. Hargreaves. These are evidently from the same lot of material as the types in the British Museum. Seven other specimens, also collected by Mr. Gowdey at Entebbe, Nov. 1910, but in rather poor condition, were submitted by Dr. J. Smart of the Department of Entomology of the British Museum.

Apart from Entebbe, only two other localities are recorded for this species, namely Southern Abyssinia (Bezzi 1920) and Kamerun (Speiser, 1915).

It may be noted that in the figure of the wing given by Austen, the end of the fourth vein appears to be almost straight. This is, however, gently curved forward, or even slightly sigmoid, as the late Major Austen wrote to me some years ago.

***Perilampus formosula*, Aust.**

Austen, 1910, *Bull. Ent. Res.*, 1, 74, *Carpophthoromyia*.

Bezzi, 1913, *Bol. Lab. Zool. Portici*, 7, 24. *Ceratitis*; 1918, *Bull. Ent. Res.*, 8, 227. *Carpophthoromyia*; 1920, *op. cit.* 10, 233, and 1924, 15, 104. *Perilampus*.

Enderlein, 1920, *Zool. Jahrb. Syst.*, 43, 354. *Ceratitis*.

Enderlein records a female from Kamerun, but unfortunately gives no notes on the specimen. Apart from this only the male type from Uganda is known.

***Perilampus tetradactyla*, Mro.**

Munro, 1932, *Dept. Agric. S. Afr., Ent. Memoir* No. 8, 40, Pl. III, fig. 12.

The following notes on the colour of the eyes were made from freshly-killed specimens. — In the male they are maroon with extensive purplish reflections, sometimes more or less shining green, or with indistinct rays, usually green, radiating from the

middle of the hind margin; in the female maroon, without diffuse green or purple reflections but with three, irregular, shining green — blue obliquely — bars, one on lower third, one opposite the antennae and one opposite the lower inferior orbital bristle; posteriorly the upper and lower bars curve towards the middle one, but do not quite reach it.

Biology. Larvae were found in large numbers in fruits of *Loranthus kraussianus* growing on a citrus tree on Benmore, Durban, in May and June 1936. Only one larva was in each fruit, feeding among the very sticky latex. To pupate, the larvae burrowed an inch or two into the sandy soil which often adhered to the puparium forming a pseudo-cocoon. In collected material larvae sometimes pupated in the fruits, but the flies (M. 589) found no difficulty in escaping. There was a very slight parasitism by a Braconid. Later in the same locality during August and September 1936, flies (M. 634) were reared by Mr. Marriott from larvae in fruits of *Loranthus quinquenervis*, and again at Umhlanga Beach, to the north of Durban, the obtained flies (M. 635) from larvae in the fruits of another *Loranthus*.

Host-plants collected at Durban were kindly identified by Miss Forbes of the Natal Herbarium.

Perilampus arguta, End.

Enderlein, 1920, *Zool. Jahrb. Syst.*, 43, 354.

The species is described somewhat briefly and it is difficult to discuss its real affinities to other species with reduced wing-pattern. The marginal band appears to be entire; the humeri black, like the dorsum, and, as Enderlein merely says „Mesopleure etwas graubraun” it is not clear whether the stripe along the top of the mesopleura is at all distinct.

Trypeta doris, sp. n.

Syn. *Trypeta péringueyi*, Bez.: Munro, Union S. Afr., Dept. Agric., Ent. Memoir 6, 13, 1929, *Phorellia* and 8, 48, 1935, *Trypeta*.

Very like *T. péringueyi*, Bez. but differs in the yellow abdomen in both sexes, the shorter base of the ovipositor, and the wing-pattern in the male similar to that of the female, although perhaps paler, but not diffuse. As compared with Hendel's description of the genus, the genae are narrower and the epistome rather more prominent; there are two inferior orbitals.

Holotype ♂, allotype ♀, 41 male and 35 female paratypes, M. 313, Pretoria, November 1930; 3 male and 5 female paratypes M. 259, Petronella, near Pretoria, November 1936, and one pair M. 595, Middelburg, Cape, April 1936, H. K. Munro.

Male: length 4.0 mm., of wing, 4.0 mm. Head yellow, an-

tennae light orange yellow. *Thorax*: dorsum and lower part of pleura black with thick yellow dust, a pair of blackish spots at base of scutellum; post-scutellum black with thick yellowish dust, only lower fourth shining black; pubescence pale, bristles black, dorso-centrals on line of anterior supra-alars, four scutellars of about equal length, the basals crossed; legs yellow; wing with M-shaped pattern as in female of *T. péringueyi*, paler but not diffuse, it is yellowish with a blackish tinge, the two inner bars not connected along discal cell. *Abdomen* yellow with black, yellow-shining pubescence, sometimes with a row of brownish sub-median spots; genitalia brown, venter yellow.

Female similar to male; antennae more strongly orange; wing-pattern practically as in *péringueyi* female, blacker than in male. *Abdomen* with stronger and larger row of sub-median spots, but these may be less pronounced or absent. Base of ovipositor as last three segments together, and about three-fourths the relative length it is in *péringueyi*.

Biology. As has been indicated, most of the records published by me under *T. péringueyi* refer to this species. The host-plant is *Senecio erubescens* (Compositae), the larvae living in the flowers. Incidentally, the Braconid parasite, *Opius phorelliae*, Wlksn. was reared from this species at Pretoria and not from *T. péringueyi*.

Scleropithus, n. g.

To a certain extent this genus runs fairly readily to *Trypeta*, Meig. in various tables available (e.g. of Bezzi, Hendel and Shiraki) and it agrees moderately closely with Hendel's description of *Trypeta*.¹⁾ Some characters may, however, be noted. The mesosternites are entirely clothed with long, strong, bristle-hairs; in this regard Enderlein²⁾ says of *Xaniosternum* „Mittelbrust in der vorderen Hälfte ziemlich dicht mit kurzen, dornartigen, senkrecht abstehenden Borsten." Whatever the appearance in *Xaniosternum* actually may be (specimens not being available) it must certainly differ from what is seen here, also it has only two scutellar bristles and the species is long and yellow.

The propleural bristles are much more strongly developed than in *Trypeta*, but are perhaps best regarded as very strong bristle-hairs as they are not quite as definitely bristle-like as in *Acidia*. There are only a couple of setulae on the knot at the base of the third vein; the lower outer angle of the discal cell is acute, about 60°, but not as much as in *Phagocarpus* as the lower cross-vein is not oblique and the upper edge of the discal cell is not

¹⁾ Hendel, in Lindner, Fl. Pal. Reg., 49, Tryp. p. 77, 1927.

²⁾ Enderlein, Zool. Jahrb., 43. Syst., 336, 1920.

shortened; the upper cross-vein is about opposite the middle of the stigma.

The genus may be further characterised thus: *Head* almost as in *Trypeta*, higher than long, the frons somewhat prominent before the eye, the epistome not projecting, and the lower occiput moderate, genae about one-fifth height of eye, a little pubescence on frons which is one-third width of head, three to four inferior orbitals, two superior, ocellars strong, lunule short, antennae shorter than face, arista short pubescent, proboscis short. *Thorax*: dorsocentral bristles behind anterior supra-alars, four scutellars; wing: costal bristles very small, anterior cross-vein a little before middle of discal cell and before end of first vein; lower squama nearly as large as upper. *Abdomen*: base of ovipositor short and broad.

Genotype: *Scleropithus glaphyrochalyps*, the following new species.

Scleropithus glaphyrochalyps, n. sp.

Holotype male, allotype female, 5 male and 7 female paratypes, Durban (Bluff), March-November 1937, W. E. Marriott.

A beautiful and striking species. Male, length, 7.0 mm., of wing, 5.0 mm., female, 7.0 mm., of wing, 5.2 mm. *Head* ochraceous, brownish across lower face and genae; occiput moderate below, above flat with a pair of broad black spots, the median ochraceous part with a silvery sheen; frons deep yellow, mottled blackish behind, brown anteriorly, flat and moderately prominent before eye, about five-eighths wide as long and one-third width of head, slight black pubescence, bristles black, inferior orbitals varying from three to four, sometimes three on one side, four on the other, in one specimen a third superior orbital; lunule short, light brownish, antennae half length of face, yellow, third joint about three times long as wide, its apex with a slight hint of a point above (in one specimen there is, on one antenna, a large, broad, triangular, flat point), arista black, short pubescent; face flat, rather long with deep grooves, cheeks about half width of third antennal joint, genae about twice and one-fifth height of eye, genal bristle and lower clothing black; epistome not projecting, the lower part of head thus rounded; proboscis short and broad; palpi dark yellow with black setulae at end; eye moderately large in profile. *Thorax*: dorsum shining black with rather light silvery dust, stronger between the rather weak median and dorso-central brownish stripes; pubescence black; upper part of humeri black, lower ochraceous; pleura: a strong yellow stripe at top of mesopleura to wing base; black with faint silvery dust, propleura ochraceous, also sutures, and hind parts to some extent.

Scutellum flat on disc, more or less triangular, the apex broadly rounded, yellow, the basal third to two-fifths black; post-scutellum shining black with slight dust (or etching). Chaetotaxy strong, black, supernumerary bristles common; scapulars strong, often a second middle pair behind the first, one humeral, hind notopleural sometimes duplicated on one side, or rarely three, two mesopleurals, at times a third, propleurals a row of strong bristle-hairs, one pteropleural, rarely two, sternopleural present, dorso-centrals about half way between anterior supra-alar and prescutellars, four scutellars of equal length, coxal bristles strong, middle sternite entirely clothed with long, strong bristle-hairs. Legs ochraceous, clothing strong and black, fore femora a little swollen, with two strong rows of fine bristles, middle and hind femora with a row of short bristle-hairs, developing into stronger bristles at end of hind femora, mid tibiae with a strong spur at outer end and an almost complete circle of shorter spurs, mid tibiae slightly, hind, more strongly blackish. Wing: costal bristles small: third vein bare, only two or three setulae on knot, hyaline with narrow, blackish-brown bands, the extreme base yellowish; a band from humeral, cross-vein to point of anal cell, filling inner end of third posterior cell and fading out before reaching wing margin; a band from yellowish stigma straight across outer end of first basal cell, just including upper cross-vein, to hind margin; a straight band from costa over lower cross vein to hind margin along which it may be palely united to previous band with which it forms a V; an apical band joined to the one over the lower cross-vein and reaching almost to fourth vein.

Abdomen shining black, the hind margins of segments at times brownish, covered with faint dust or etching giving the surface almost the appearance of shining steel, the last segment, however (fifth in male, sixth in female) is shining polished black except on the narrow anterior edge; pubescence black; apical bristles strong. Male genitalia shining black, polished. Base of ovipositor short, stumpy, the apex broadly rounded, 1.0 mm., about as long as segments five and six together, light brownish to blackish with black pubescence. Venter black, more or less yellow basally and on hind edges of sternites, except the last.

Puparium. This is very characteristic, the segments are strongly marked and constricted right to the anterior end which is somewhat pointed. The integument, also, is harder than is usual in Trypetid puparia.

Biology. The larvae were found in fruits of *Strychnos henningsii*, collected on the Bluff, at Durban, S. Afr., in the beginning of March 1937 by Mr. W. E. Marriott who may be congratulated on the discovery of this remarkable insect. As they were practically full-grown at the time, the larvae soon pupated, but it is very interesting

to record that the adults did not emerge till the following November. This is an uncommonly long duration of the pupal period for a subtropical Trypetid.

***Oedaspis auriella*, n. sp.**

This is an interesting species of *Oedaspis* and the first recorded from Southern Africa, to be included in the subgenus *Dichoedaspis*, Hendel. It is apparently very like *Oedaspis farinosa*, Hend. a species recorded as "probably from Algeria". Differences that may be noted are: in the new species the third joint of the antennae is about twice as long as wide; the bristles of the head are mostly brownish-black; there are two, not three inferior orbitals; the legs are entirely yellow; the pair of apical bands on the wing are broadly united above.

Holotype male, allotype female, 2 male and 1 female paratypes, Kloof, Natal, April 1935, W. E. Marriott. The larvae and puparia were found in spindle-shaped galls on the thin stems of a *Senecio* sp.

Length, male, 3.25 mm., of wing 3.25 mm. (two small males have a wing-length of 2.5 mm.); female, length 3.6 mm., of wing, 3.5 mm. *Head* yellow; occiput flat above, moderate below, the bristles thickened, yellow; frons a little more than half width of head, flat but very slightly swollen, ocellar dot black, bristles blackish, two inferior and two superior orbitals, the upper of the latter short and yellow, slight pubescence in middle; lunule moderate; antennae a little shorter than face, third joint about twice as long as wide, broadly rounded at end, arista finely pubescent; face with shallow grooves; cheeks about half width of third antennal joint, the genae a little wider than this joint and one-fourth height of eye, genal bristle brownish; eye rather small in profile; proboscis and palpi normal. *Thorax*: dorsum brownish but with extensive, ill-defined, blackish marks across suture, on anterior two-thirds of middle line, and above wings; there is slight golden dust and pale, yellowish, coarse and sparse pubescence, the pleural pubescence pale yellow. On the sides the mesosternites are blackish, the blackness extending upwards to the shining black post-scutellar area, the upper part of the lower portion of the post-scutellum being covered with white dust. Scutellum large, swollen and polished, shining black with four bristles, at the apex are a few (four or five) white, pubescence hairs and before each basal bristle a small, close-set group, corresponding to a similar pair on the hind edge of dorsum; bristles normal, blackish-brown, the pteropleural yellow, no scapulars, one mesopleural, the dorso-centrals on line of anterior supra-alars. Halteres and squamae pale yellow, lower squama narrow. Legs normal, yellow. Wing: a few scattered bristles to upper cross-vein and occasionally one or two

above middle of first posterior cell; the pattern consists of a series of broad blackish bands: a basal band over basal cross-veins and inner ends of first basal, discal and third posterior cells to hind margin; a broad middle band over upper and outer cross-veins to hind margin broadly united to basal as far as third vein and continued to extreme base of wing as far as fourth vein; a broad, isolated, apical band reaching to middle of last section of fourth vein, and divided below by a wide indentation to middle of first posterior cell; outer end of outer costal cell hyaline also a spot on costa near its base; middle band with a few, yellowish, sub-hyaline spots on its upper portion as also the apical band, where they are rather more hyaline. *Abdomen*: Male yellow, the segments on each side with brownish, ill-defined spots of greater or less extent; pubescence brownish, but on lateral margins of abdomen, on hind edge of fourth, and hind half of fifth segment, yellow; venter yellow with yellow pubescence; genitalia reddish. Female, black, the hind edges of segments four and five narrowly yellow, the sixth more widely so, the yellow with a tendency to form a median stripe; sixth segment about two-thirds length of fifth; base of ovipositor shining black with black pubescence, stumpy, short conical, very wide at base where about as wide as length; venter yellow with yellow pubescence.